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The Impact of Information and Communication Technology (ICT) on Tertiary Institutions' Administration in Nasarawa State, Nigeria
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THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) ON TERTIARY INSTITUTIONS' ADMINISTRATION IN NASARAWA STATE, NIGERIA.

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Abstract

The study was carried out to establish the impact of information and communication technology (ICT) on tertiary institutions administration in Nasarawa State, Nigeria. A descriptive research design was adopted in conducting this research. Four research questions and hypotheses were used to guide the study to a coherent conclusion. A structured questionnaire titled: ICT and administration of tertiary institutions assessments questionnaire (IATIAQ) was used to elicit information from the respondents. The study population comprised all staff of public tertiary institutions in Nasarawa state. Stratified random sampling method was used to select 127 staff and 6 tertiary institutions used in the study The data generated was evaluated using Pearson correlation co-efficient (r) and t-test statistical tools. The findings revealed that ICT has a significant impact on school records management, student's academic performance, teacher's job performance and instructional supervision which are amongst the key components and essential parameters of measuring the achievement of tertiary institutions in Nasarawa state. The study therefore recommends provision of adequate funds, manpower and ICT facilities to schools, regular monitoring and evaluation of school activities and routine training and retraining of staff on ICT appreciation and application in Nasarawa state.

Keywords: Administration, Education, ICT, School, Tertiary Institutions, Nigeria.

Introduction

Information and communication technologies are defined as a set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information (United Nations Development Programme(UNDP,2001). Such technologies include radio, television, video, DVD, telephone, satellite systems, computers and network hardware and software as well as the equipment and services associated with these technologies such as video-conferencing and electronic mail (United Nations Educational, Scientific and Cultural Organization (UNESCO,2002).

ICTs are generally accepted as a modern instrumental tool and has become so important that every country, organization or institution no matter how highly or lowly placed want to identify and embrace it. In view of its relevance, Gidadawa and Dogondaji (2014) perceived ICT as an indispensable part of the contemporary world whose pervasiveness has

brought about rapid technological, social and economic transformation. Rapid developments in ICT in recent years have resulted in significant changes in the way the world operates and communicates, this in turn has impact on educational and training needs in terms of the content and the delivery of educational and training services (Esoswo,2011).

ICT have been touted as potentially powerful enabling tools for educational reform and essential towards charting the course for societies to adapt to the modern dynamics of technological advancement (Nwaokwa & Okoli,2012).Its advent according to Kumar and Kaur (2006) signals the emergence of a new form of knowledge creation and circulation which has as its greatest advantage, a virtually unlimited wealth of information resources that is widely readily available and accessible to millions of people simultaneously in many parts of the world. Olaore (2014) observed that Governments all over the world are harnessing the rich potentials in ICT as a tool for educational development, economic recovery and wealth creation because it offers a knowledge based system that include knowledge acquisition, incubation, amplification and knowledge dissemination.

Even though the country's economy is still largely based on low technology and low-value industries, Acharu (2015) remarked that there is awareness of the importance of ICT in the country's developmental drive which has necessitated the enactment of ICT Policy by the Federal Executive Council in 2001 and the establishment of the National Information Technology Development Agency (NITDA) as the policy regulatory agency. The ICT policy empowers NITDA to enter into strategic alliances and collaborate with the private sector to realize the specifics of the country's vision of making Nigeria an information technology (IT) capable country in Africa and a key player in the information society through using IT as an engine for sustainable development and global competitiveness (NITDA,2007).

UNESCO,(2002) reported that ICT has permeated the education environments underpinning the very success of 21st century education since it adds value to the process of learning and management of learning institutions. It is more critical today than ever before since its growing power and capabilities are triggering changes in the learning environments. The present generation is known to be an information era, propelled by development in ICT which has filtered through the entire spheres of human activities.

The use of ICT is a symbol of a new era in education and has begun to exert a massive transformation of education systems in developed countries where there are electronic learning and distance education. It has proved to be a catalyst to fundamental changes in the world's economies and societies by creating more avenues to earn income, allowing access to useful information, enhancing the world of work and making the world a global village (Adewoye & Obasan, 2012).

Remarkably, Buabeng-Andoh (2012) opined that despite the evident advantage of ICT in facilitating improvement in the attainment of educational goals and enhancing professional development in the education sector, ICT adoption and integration into diverse component of school administration is still limited in many developing countries. This became an issue of concern to the researcher and it prompted a study whose main thrust is to establish the relationship between ICT and tertiary institutions administration in Nasarawa state, Nigeria.

Research Questions

1. What is the extent of correlation between ICT and records management in tertiary institutions in Nasarawa state?
2. What is the extent of correlation between ICT and Student's academic performance in tertiary institutions in Nasarawa state?
3. What is the extent of correlation between ICT and Teacher's job performance in tertiary institutions in Nasarawa state?
4. What is the extent of correlation between ICT and Instructional Supervision in tertiary institutions in Nasarawa state?

Research (null) Hypotheses

1. There is no significant correlation between ICT and records management in tertiary institutions in Nasarawa state.
2. There is no significant correlation between ICT and Students academic performance in tertiary institutions in Nasarawa state.
3. There is no significant correlation between ICT and Teachers job performance in tertiary institutions in Nasarawa state.
4. There is no significant correlation between ICT and Instructional Supervision in tertiary institutions in Nasarawa state.

Purpose of the Study

The study is conducted to establish the impact of ICT on tertiary institutions administration in Nasarawa state, Nigeria. Specifically, the study will examine whether:

1. There is any significant correlation between ICT and records management in tertiary institutions.
2. There is any significant correlation between ICT and student's academic performance in tertiary institutions.
3. There is any significant correlation between ICT and teachers job performance in tertiary institutions.
4. There is any significant correlation between ICT and instructional supervision in tertiary institutions.

Significance of the Study

The study is significant in the sense that the findings would serve as a guide to various levels of government in formulating ICT adoption policies for the education sector of Nasarawa state and the country in general. Academic and related institution may as well reap from the findings especially as the result would encourage the integration of ICT into managing the various activities of the sub systems of administration like records management, information services, student's assessment and teacher's evaluation etc. More so, the research will add to the existing literatures on ICT which would serve as an empirical basis and a guide to other researchers conducting related studies on ICT and tertiary institutions administration.

Scope of the Study

The study focussed on the impact of ICT on tertiary institutions administration in Nasarawa state. However only public tertiary institution located in the three senatorial zones of Nasarawa state are used as a case study.

Delimitation of the Study

The study was delimited to only public tertiary institutions in Nasarawa state in 2018/2019 academic session because of government's drive to improve ICT adoption in the management of education institution. The study was further delimited to cover four areas of school administration which include; records management, student's academic performance, teacher's job performance and instructional supervision given that they are among the essential factors of measuring the achievement of tertiary institutions in Nasarawa state.

Research Methodology

A descriptive survey method was adopted for the research. The population of the study comprised all the staff in the nine public tertiary institutions in Nasarawa state, Nigeria. Stratified random sampling technique was used to select one hundred and twenty seven staff from 6 tertiary institutions in the state using the three senatorial zones as the basis for stratification.

A four-point likert scale structured questionnaire titled: ICT and administration of tertiary institutions assessments questionnaire (IATIAQ) was used to elicit information from the respondents based on the research questions of the study. The questionnaire items were content and face validated to determine its suitability for use in data collection. The reliability of the instrument was determined using the split half method in which a reliability co-efficient of 0.785 and 0.812 were obtained respectively for the instrument in a pilot study conducted with thirty two staff from three tertiary institutions. The calculated reliability index was adjudged exceptional and consistent for the study.

The research instrument was administered with the support of six research assistants (who are students in the institutions) to the respondents. Forty eight completed questionnaires were collected on the spot while the remaining seventy nine were collected within six weeks. The completed and returned questionnaires were decoded into statistical data and evaluated using Pearson's correlation co-efficient (r) and t-test statistical tool to test the hypotheses at 0.05 level of significance.

Result and Data Analysis

The hypotheses raised for this study were tested using Pearson Product Moment Correlation Statistical tool and the results obtained are shown below:

Research Questions 1:

What is the extent of correlation between ICT and records management in tertiary institutions in Nasarawa state?

Hypothesis one: There is no significant correlation between ICT and records management in tertiary institutions in Nasarawa state.

Table 1: Relationship between ICT and Records Management in tertiary institutions.

Variables	N	r-critical value	df	r-cal	Decision	Level of Significance
ICT and Records Management	127	0.174	125	0.554	significant	0.05

Table 1 shows that the r - calculated value 0.554 is higher than the critical value of 0.174 (0.554>0.174). The analysis indicates that there is a measurable correlation between ICT and records management in tertiary institutions in Nasarawa state. This therefore, necessitated the rejection of the null hypothesis.

Research Questions 2:
What is the extent of correlation between ICT and Student's academic performance in tertiary institutions in Nasarawa state?

Hypothesis two: There is no significant correlation between ICT and student's academic performance in tertiary institutions in Nasarawa state.

Table 2: Relationship between ICT and student's academic performance in tertiary institutions.

Variables	N	r-critical value	df	r-cal	Decision	Level of Significance
ICT and Student's Performance	127	0.174	125	0.816	significant	0.05

The result presented in table 2 revealed that the calculated value 0.816 is higher than the critical value 0.174 (0.816>0.174).The null hypothesis was therefore rejected since the results found a significant relationship between ICT and student's academic performance in tertiary institutions in Nasarawa State.

Research Questions 3:
What is the extent of correlation between ICT and Teacher's job performance in tertiary institutions in Nasarawa state?

Hypothesis three: There is no significant correlation between ICT and Teacher's job performance in tertiary institutions in Nasarawa state.

Table 3: Relationship between ICT and Teachers job performance in tertiary institutions.

Variables	N	r-critical value	df	r-cal	Decision	Level of Significance
ICT and Teacher's Performance	127	0.174	125	0.635	significant	0.05

The result obtained and presented in table 3 revealed that the calculated value 0.635 is greater that the critical value 0.174 (0.635>0.174).The results therefore indicated that a significant correlation exist between ICT and Teacher's job performance in tertiary institutions in Nasarawa state. Hence, the rejection of the null hypothesis.

Research Questions 4;
To what extent does ICT have correlation with Instructional Supervision in tertiary institutions in Nasarawa state?

Hypothesis four: There is no significant correlation between ICT and Instructional supervision in tertiary institutions in Nasarawa state.

Table 4: Relationship between ICT and Instructional supervision in tertiary institutions.

Variables	N	r-critical value	df	r-cal	Decision	Level of Significance
ICT and Instructional Supervision	127	0.174	125	0.618	Significant	0.05

The result of the test of hypothesis in table 4 was significant since the calculated value 0.618 is greater than the critical value 0.174 (0.618>0.174).This finding implied that there is a proven correlation between ICT and instructional supervision in tertiary institutions in Nasarawa state. Therefore, the null hypothesis was rejected.

Discussion of Findings

From the analysis of data, it was found that ICT has a significant correlation with records management in tertiary institutions in Nasarawa state. The outcome is in agreement with the findings of Nakpodia and Okeimute (2011) that contemporary digital technology facilitates access to a wide range of information which is highly valuable in real time decision making on diverse issues and record management. Similarly, the result also aligns with the submission of Oyedimi (2015) that ICT has the capabilities of facilitating administrative activities through abridging tedious record keeping aspect of school administration, improving knowledge management and decision making process. The finding also in consonance with the study of Toyo (2017) that ICT allow fast, accurate and reliable access to records, ensuring the timely destruction of redundant information and the identification and protection of vital and historically important records in an organization.

The study revealed that ICT is helpful in improving student's learning skills since it provide opportunities that accelerates the speed of learning and engender an individual as an active learner. This revelation corroborates the findings of Oyedimi (2015) that ICT facilities have the capabilities to provide opportunities for introducing advance teaching-learning methods that are able to prepare students as skilled workforce for future. In a like manner, the finding agrees with Okeh and Opone (2007) that the use of ICT in teaching and learning has a significant positive influence on effective dissemination and engagement of student's academic activities resulting in increased learning ability. However, the finding is contrary to the submission of Horton (2006) who observed that the advent of ICT has increased learner's access to numerous erroneous or misleading information's on the internet that may hamper learning outcomes.

The study further uncovered that ICT has a significant connection with teacher's job performance given that it plays an important role in the emergence of reforms in teaching and learning processes. This can promote new instructional methods for teaching and enhancing teacher's output. The outcome is in line with Volman and Van Eck (2001) who posits that ICT can be a catalyst by providing tools which teachers use to improve teaching and giving learners access to electronic media that make concepts clearer and assisting the teacher in assessment and testing. The study further supports that of Roberts (2003), Moursund (2005), Jegede (2008), Gonzalez (2009) and Gonzalez (2010) whose various studies discovered that ICT plays a central role in promoting new instructional methods that can improve teaching and learning such as self-paced learning, computer aided learning, open distance learning, network learning and online discussion respectively.

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The research further found that ICT can assist in simplifying and improving the instructional supervision process through improved communication and practical orientation. This makes the process more friendly and adaptable in the school system. The finding is in agreement with submission of Faraj Allahi and Zarif Sanayei (2009) that ICT enhances group collaboration during supervision and thereby making the process more acceptable and

democratic. The result is also in consonance with Ugwoke (2010) that the introduction and implementation of electronic supervision (e-supervision) will assist in addressing and maintaining quality assurance in the school system.More,so the gains of e-supervision will outweigh those of the traditional on-site supervision in terms of cost-benefit in the long run. The findings is however contrary to Ekundayo, Oyerinde and Kolawole (2013) who observed that the current technological innovation in teaching which guarantees online learning opportunities have equally altered the face to face classroom observation and evaluation model thereby threatening the traditional model of instruction thus posing a challenge to instructional supervision in the school system.

Conclusion

A descriptive survey method was used to investigate the impact of ICT on tertiary institutions administration in Nasarawa state. The study found that ICT has the potential to create a platform for a well-organized school system that is simplified and well positioned for quality service delivery. Effective use of ICT plays a vital role in ensuring effective school records management, improving student's academic performance, boosting teacher's job performance and enhancing instructional supervision process in tertiary institutions in Nasarawa state.ICT has turned out to be a part of today's reality that should made accessible to the persons in the educational institutions at all levels. This will heighten professional development and improve the quality of the education sector in Nigeria.

Recommendations

Based on the findings of the study, it is recommended that:

1. Government and relevant stakeholders should ensure provision of adequate funds, quality manpower and ICT equipments that would ensure excellent record keeping and optimal records management in the school system.
2. Regular training and re-training of school administrators and staff on the use of ICT should be given attention so as to promote proper adoption and integration into the education sector.
3. Well equipped ICT centres, lecture halls and e-libraries should be made accessible for student's use for academic and career development in tertiary and other institutions.
4. Mechanism should be put in place to guarantee the use of ICT facilities in the instructional processes so as to facilitate the evaluation of educational outcome in the country.

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